



Herpetological Contributions of Charles Conrad Abbott, Eccentric 19th Century Archeologist and Naturalist

C. Kenneth Dodd, Jr.

5222 N.W. 56th Court, Gainesville, Florida 32653, USA, terrapene600@gmail.com

Charles Conrad Abbott (4 June 1843 – 27 July 1919; Fig. 1) was a controversial figure in the emerging science of archeology in the late 19th Century. His family was among the most prominent in the Trenton, New Jersey, area. Abbott's father, Timothy, was a successful merchant and his mother Susan was the daughter of Solomon White Conrad, a professor of Botany at the University of Pennsylvania. Abbott attended the prestigious Trenton Academy and later the University of Pennsylvania, where he received his M.D. degree in 1865. Before graduation, he served a brief stint in the Union Army during the American Civil War, although he never saw action. According to his biography (Dillian and Bello, 2020), Abbott was "a terrible doctor" whose "abrasive personality and an overall indifference towards medicine contributed to a poor bedside manner." Not surprisingly, he was unsuccessful as a physician.

In 1867, Abbott married Julia Boggs Olden of Princeton, New Jersey. Her family was well-off financially, having settled in the Trenton area in the late 1600s, where they accumulated extensive land holdings. The area was still largely held in agriculture by the mid-19th Century when the Abbotts moved to Three Beeches in 1874, a farm bought for him and his wife by Julia's father. Charles Abbott remained on the farm until the family home burned down in 1914. In 1919, he died of Bright's disease, a kidney infection, at age 76.

Abbott never proved adept at managing the farm. Dillian and Bello (2020; p. 27) stated that "he preferred to sleep late, nap often, and follow his archeological and naturalist pursuits." Abbott is further quoted as saying "there is danger in the unsunned air of early morning, and insanity is the result of too frequent lungfuls of the day at dawn; that farmers lose their sanity because of early rising, and, if not quite so bad as this, at least their mental strength is prematurely weakened." Dillian and Bello (2020) dryly noted that "Charles appeared to be in little danger of succumbing." Job Olden, Julia's father, expressly stated in his will that no part of the farm or any of his possessions or finances should ever go to Charles Abbott. Job was not an approving father-in-law.

ARCHEOLOGIST

The location of Three Beeches proved advantageous to both the amateur naturalist and archeologist. Situated in a rich

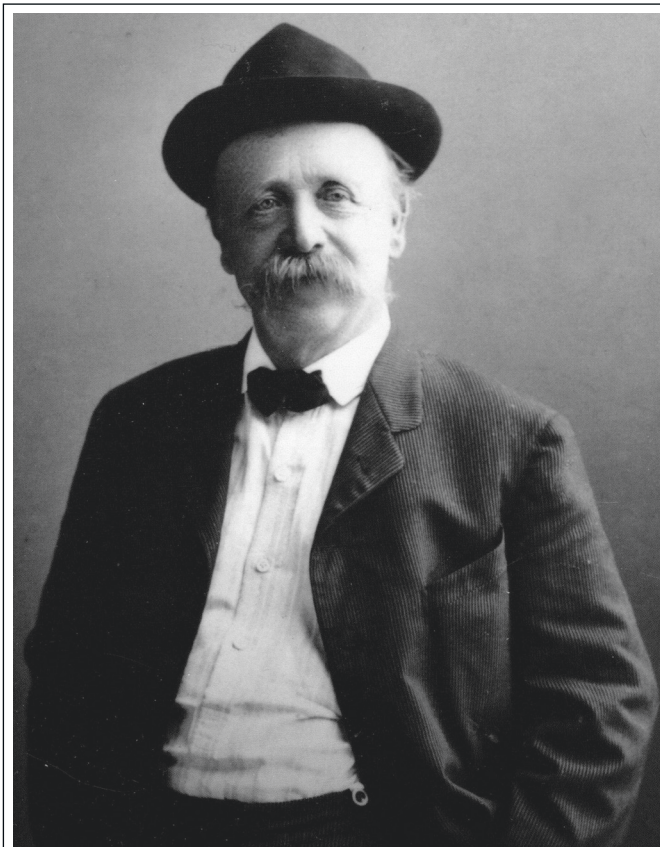


Fig. 1. Charles Conrad Abbott. Undated. Charles Conrad Abbott Papers (C0290), Box 15, Folder 2; Manuscripts Division, Department of Rare Books and Special Collections, Princeton University Library.

agricultural area on a bluff overlooking the Delaware River and in proximity to several creeks, the farm included fields, riparian forest, and marshes rich in wildlife. Although much of the land was unsuited for farming because of man-made changes to local drainage patterns, its location proved ideal for the naturalist ramblings favored by Charles Abbott. By all accounts, Abbott was much more at home wandering around the river margins, forests, and fields near his home than he ever was in medicine, managing a farm, or anything else that required concentrated effort and work. Instead, he collected Native American artifacts, particularly from the exposed gravel terraces along the river, and took extensive

daily notes on nature in the region of his and adjacent farms near Trenton.

The Delaware Valley was rich in indigenous artifacts, which Abbott eagerly collected as surface finds and sent to the Peabody Museum at Harvard University (e.g., more than 800 specimens of stone tools in 1872 alone). Abbott believed the tools he collected from the gravels along the river bluffs were of paleolithic (Pleistocene) age rather than more recent age and thus suggested human occupation of North America much earlier than previously believed. He gained extensive notoriety for these claims and published papers in respected journals detailing his finds and interpretations (e.g., Abbott, 1872, 1876, 1883), apparently using his medical degree and family connections as a measure of authority (as discussed by Dillian and Bello, 2020). Publication brought attention to his finds and his ideas to the public and amateur archeologists, as well as an increasing number of academically oriented museum and university-based scientists. Widely acclaimed initially, support for his hypothesis of colonization by paleolithic peoples diminished in the 1890s as sites were more carefully excavated.¹ Even as evidence accumulated that his hypothesis was not supported by field data (e.g., Holmes, 1892a, 1892b; extensive discussion and bibliography in Dillian and Bello, 2020), Abbott persisted in refusing to recognize that he might be incorrect. Disagreements turned into intense personal attacks, jealousy, and ultimately banishment by the professional archeological community (Dillian and Bello, 2020).

Abbott had no professional training either as an archeologist or naturalist, which at first did not diminish his influence on archeology, as very few individuals interested in archeology were in academic posts at the time². He was appointed as an unsalaried field assistant to Harvard's Peabody Museum in 1876 because of his long history of communications with university personnel (particularly Frederic Ward Putnam) and the vast numbers of specimens he provided to the nascent museum. Although not an official employee, the appointment provided an affiliation and title. From 1876 to 1889, Abbott continued to eke out a living as a farmer and writer. However, with his Peabody Museum affiliation, he contributed large numbers of artifacts, numbering more than 25,000, and published on his paleolithic ideas which helped establish the Peabody Museum as a leader in archeological collections.

In 1889, Abbott was offered a professional salaried position, Curator of the American Archeological Museum, to develop the archeological museum being planned at the University of Pennsylvania. He retained this position until late 1893 when intense personality clashes with museum administrators and his poor work habits resulted in his termination. Abbott was by all accounts, including his own, at times an extremely disagreeable and confrontational individual, fully capable of venting anger and insults toward colleagues and administrators.³ In 1900, Abbott was approached by Princeton University and asked to donate his personal papers to the library there. He agreed but then became aware of attempts to

establish an archeological museum at Princeton along the lines of the Peabody Museum at Harvard. For the next 12 years, he worked to establish such a museum and donated another 1,300 specimens from the area around his home in Trenton. The museum never materialized, however, in part because of Abbott's abrasive personality and his inattentive work habits.

It is now hypothesized that humans entered North America by ca. 20,000 years ago, but no evidence of their presence in the Delaware Valley currently is known at this time. Abbott's finds, important as they were, are now thought to date from the Archaic (ca. 8,000 to 1,000 BC) to the period of early colonial settlement. His collections are now deposited in museums throughout the eastern United States. Although he is often dismissed largely because of his personality, his slipshod field techniques, and his inability to evolve his thinking and accept different interpretations as new data became available, he remains one of the pioneers of archeology in the eastern United States (Dillian and Bello, 2020). The Abbott farm at Three Beeches has been designated as the Abbott Farm National Historic Landmark as a tribute to the important archeological work conducted there by Abbott and later scientists. See <https://abbottmarshlands.org/wp-content/uploads/2024/10/AbbottFarmInterpretivePlan-compressed2.pdf>.

NATURALIST

Charles Abbott was interested in natural history from an early age. As noted by Dillian and Bello (2020), his first papers on fishes were in the early 1860s when he was still a teenager. Even before he became well-known as an archeologist, he had published numerous papers and natural history observations on fishes and birds. Despite his archeological interests, his natural history observations continued throughout his career, published as short notes on mammals, birds, amphibians and reptiles, and crayfish. Throughout his life, Abbott kept a daily diary of his observations on nature, his discoveries while "rambling," the weather, personal interactions with colleagues and neighbors (many of which were critical and openly hostile), and farming. The diary notes formed a rich source for his later nature writings.

In order to supplement his meager income from farming, Abbott wrote books based on his natural history observations, and these became his major source of income in his later years. His first popular book was *Naturalist's Rambles About Home* (1884e; Figs. 2, 3) with others such as *Upland and Meadow* (1886), *Waste-land Wanderings* (1887), *Outings at Odd Times* (1890), and *Notes of the Night, and Other Outdoor Sketches* (1896). His book *The Birds About Us* (1894) was a critical and financial success, with good reviews even from the professional ornithological community. He also published a few novels, for example, *A Colonial Wooing* (1895). Dillian and Bello (2020) provide a more comprehensive list, with 18 book titles listed. These books were popular and well-received in his era but are little-known today. An admirer of Henry David Thoreau, Dillian and Bello (2020) suggest

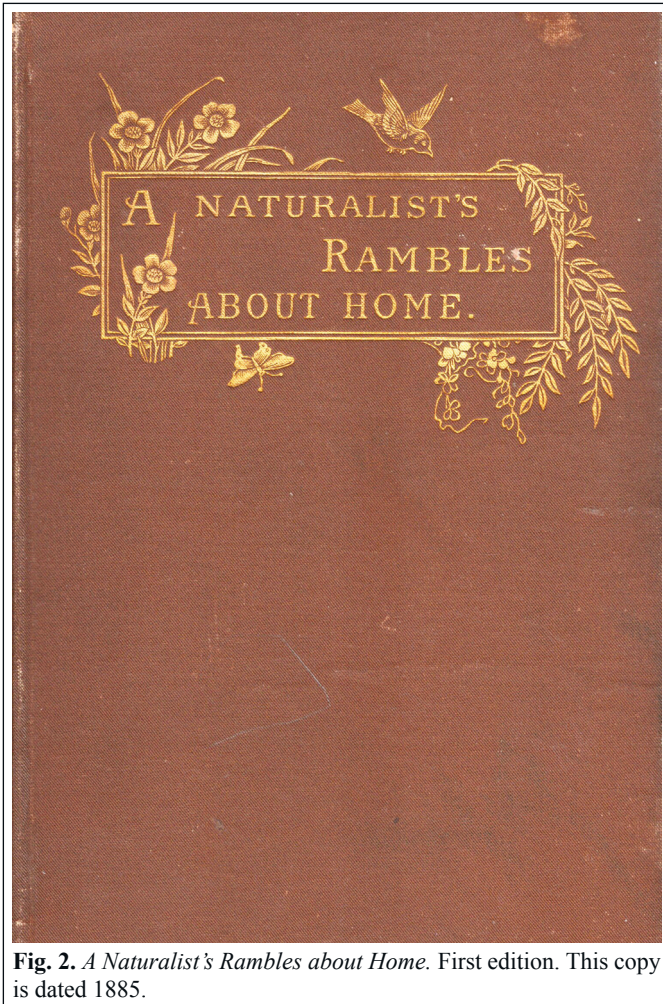


Fig. 2. *A Naturalist's Rambles about Home*. First edition. This copy is dated 1885.

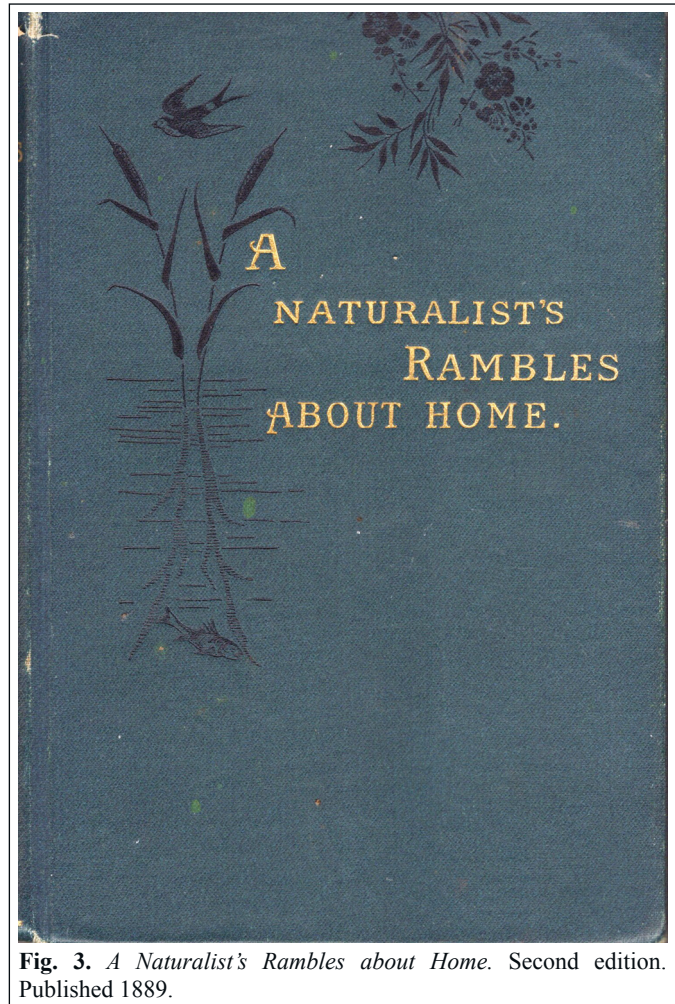


Fig. 3. *A Naturalist's Rambles about Home*. Second edition. Published 1889.

that Abbott's writings on natural history had considerable influence on 20th Century naturalists, particularly Aldo Leopold.

ABBOTT'S HERPETOLOGY

Charles Abbott was a naturalist whose main interest was birds, since they were obviously the most likely vertebrates observed during his rambles about his farm and region. However, he published short notes and papers on *Acris crepitans*, *Dryophytes* (= *Hyla*) *andersonii*, *Scaphiopus holbrookii*, and *Sceloporus undulatus*, as well as on hibernation (corrects misconceptions about activity during overwintering) and why thousands of tiny spadefoots are sometimes observed after rainfall (no, they did not fall from the sky!) (see references below). None of his natural history books included anything but passing notes on amphibians and reptiles (i.e., casual sightings, frogs calling) except for *A Naturalist's Rambles About Home*. However, Charles Abbott made notable 19th Century contributions to herpetology based on three major publications.

***Catalogue of the Vertebrate Animals of New Jersey* (1868).** This compilation was the first listing of the vertebrates

from the eastern U.S. state of New Jersey. Abbott wrote all sections, mammals, birds, amphibians and reptiles (both included under the heading "Reptiles"), and fishes. How geologist George Cook came to assign Abbott this task is not stated, nor is it stated how the list was compiled. Presumably most information originated from Abbott's fieldwork and from local naturalists, but there are no acknowledgements. Several accounts mention Abbott's first-person field observations. Fowler (1906) stated that Edward D. Cope largely made the identifications, and Dillian and Bello (2020) noted that Abbott was a frequent correspondent with Cope.

Beginning with turtles, a short narrative is provided for each species under its scientific and common name, followed by notes on abundance, distribution, habitat, and economic value, although not all topics were included with each very short account. Abbott records 12 turtles (no sea turtles), 2 lizards, 16 snakes, 15 salamanders, and 13 frogs. Some species mentioned are clearly synonymous (e.g., *Plethodon erythronotus* and *P. cinereus* are not separate species, as neither are *Notophthalmus viridescens* and *N. miniatus*), but the remainder can be assigned to currently recognized species. In 1859, Abbott reported capturing a *Clonophis kirtlandii*, a Midwestern prairie species that is not known to occur in

New Jersey, but the location was not reported. Fowler (1906) included an account of this species based on Abbott's (1868) checklist and Wright and Wright (1957) mentioned the New Jersey record, but Trapido (1937) did not because no further individuals had been reported since Abbott's observations.

There are a number of typographical errors in the scientific and common names, i.e., *dipedon* for *sipedon*, *dirtalis* for *sirtalis*, *platyrhinus* for *platyrhinus*, and Blake Snake for Black Snake. Further confusion involves species (e.g., *Rana pipiens* is called a bull-frog but the account narrative clearly refers to *R. catesbeiana*). Fowler (1906) attributed this to an "unfortunate uncorrected proof." Given Abbott's inattention to detail, it may not be surprising that the information in the accounts is sometimes not accurate. For example, *Apalone spinifera* was described as a "salt-water turtle" (it is entirely freshwater); *Graptemys geographica* was said to occur throughout the state (it occurs in the Delaware River along the western margin of the state and has been observed basking along the Delaware & Raritan Canal; *Graptemys geographica* is currently known from six counties in west-central New Jersey (Schwartz and Golden, 2002; Zappalorti, personal observation); and *Lampropeltis triangulum* and other species were said to have a fondness for milk (a folktale). Some of the abundance comments are intriguing. For example, *Clemmys guttata* and *Glyptemys mühlenbergii* were reported as very abundant. Likewise he claimed that *Crotalus horridus* had not been reported north of Trenton in 50 years (implying that it formerly occurred in the Trenton region; currently there are two disjunct populations of *Crotalus horridus* in New Jersey, one in the north and one in the south separated by 128.75 km). It seems obvious that this section did not receive rigorous editorial or content review. Inattention to detail makes this early checklist of somewhat limited value, but it is among the earliest attempts to document any state's herpetofauna.

In 1890, Julius Nelson (6 March 1858 – 15 February 1916), a professor at Rutgers University, updated Abbott's vertebrate catalogue of 1868. Spelling errors were corrected, the taxonomy was made current, and species recorded since 1868 were added. Nelson added short descriptions of each species, but otherwise did not alter Abbott's text. Instead, Abbott's original text and comments were included verbatim and placed in parentheses after the descriptions. There is no record of Abbott's involvement with the 1890 revision. Nelson had joined Rutgers shortly after receiving his PhD in 1888 and did not include any original observations on the herpetofauna.

A Naturalist's Rambles about Home (1884e).⁴ *Rambles* was certainly Charles Abbott's most extensive contribution herpetologically. The amphibian and reptile section covers 100 pages of narrative detailing Abbott's "short studies" based on his natural history field observations mostly in the Trenton area. These are presented in the first person without much reference to scientific literature or the use of scientific names. Abbott relies on his powers of observations, contradicts

incorrect information often seen in popular accounts and newspapers, tells stories, and speculates as to what the animal experiences in its habitat. Sometimes he presents keen insights, such as wondering whether the leaf litter tail-rattling of common non-venomous snakes when confronted by danger could be behavioral mimicry with the venomous rattlesnake. The text, while presented in narrative popular prose, exemplifies Abbott's ability to enthrall his readers with natural history, something his personality seemed to prevent him from doing in person. Even today, the accounts make interesting reading. *Rambles* is frequently cited by later authorities, particularly Fowler (1906). A "second edition" of *Rambles* was published in 1889 and reprinted in 1892, but it appears identical to the first edition.

Young Folk's Cyclopedia of Natural History and Cyclopedia of Natural History (1887–1895; Figs. 4, 5). Despite the different titles, publishers, and dates of publication (see below), the *Cyclopedia* is essentially the same book. The book consists of 32 chapters, of which six cover amphibians and reptiles: XXV (Ophidia, or Serpents; pp. 481–502), XXVI (Lacertilia, or Lizards; pp. 503–513), XXVII (Crocodilia, or Alligators; pp. 514–519), XXVIII (Chelonia, or Turtles; pp. 520–529), XXIX (Caecilians and Salamanders; pp. 530–541), and XXX (Toads and Frogs; pp. 542–560). The coverage is worldwide, but non-North American species are limited to only the best-known species, e.g., geckos, chameleons, pythons and boas, the Australian Moloch, European Olm, and Surinam Toad (*Pipa*). Most of the black and white illustrations are of North American species familiar to Abbott. The text is geared to introduce young readers and others interested in natural history to a diversity of species and, perhaps as expected, it is oriented more to mammals (pp. 9–209) and birds (pp. 210–480) than to "lower" vertebrates.

One curious edition of the *Cyclopedia* was published as *The Model Book of Natural History* by the Farm and Fireside Library of Springfield, Ohio (Figs. 6, 7). The Farm and Fireside Library produced cheap copies of popular books to be sold to rural farm residents to stimulate reading and expand knowledge beyond rural, often isolated, communities. The books were published in paperback format using rather poor paper to keep costs low. Single copies sold for US \$0.50, but Abbott's *Cyclopedia* sold for US \$1.00 since it was a double issue. The text is exactly the same as in the hard-back editions sold by the original publishers. The library operated from 1881 to 1901.⁵ I have been unable to determine if other natural history books by Abbott or other titles of herpetological interest were included in this series.

CONCLUSION

Charles Conrad Abbott was not a major influence on herpetology in the late 19th Century, but he was certainly well-known among the naturalists and scientists of his day. Although he was primarily professionally interested

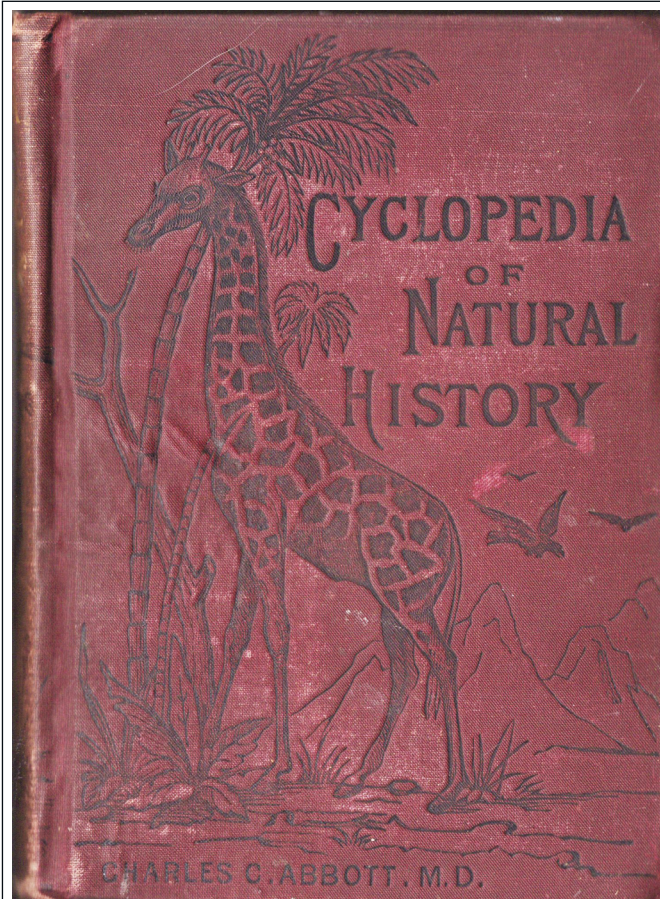


Fig. 4. *Cyclopedia of Natural History*. 1888 edition.

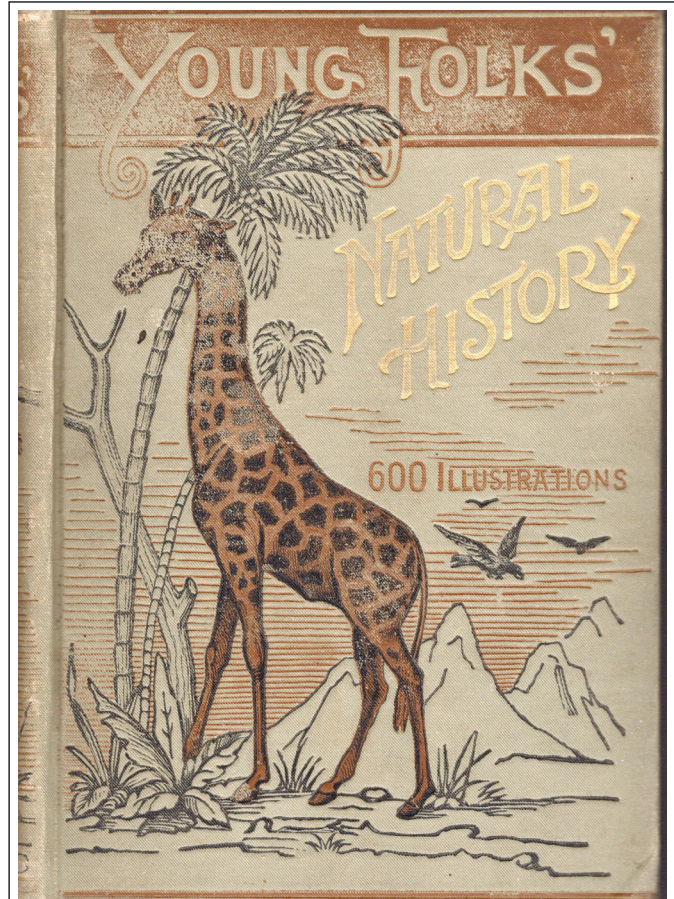


Fig. 5. *Young Folks' Cyclopedia of Natural History*. 1895 edition.

in archeology, he communicated extensively with the naturalists of his era, including Frederic Ward Putnam, Edward D. Cope, and Henry W. Fowler. He was the first to attempt documentation of the vertebrates of New Jersey, and his natural history observations based on his own direct field notes were of interest and widely referred to by later authors. No doubt, his natural history books stimulated much interest in the subject, and his reliance on direct observation by-passed the many “nature-faker” writers of his day (see Chapter 7—Abbott the Naturalist—in Dillian and Bello, 2020, for an examination of his legacy in natural history). Charles Conrad Abbott was viewed by colleagues as cantankerous, difficult-to-be-around, somewhat sloppy in technical fieldwork, lazy, and stubborn, but he was definitely a curious character and an influential writer and naturalist following his own path in life.

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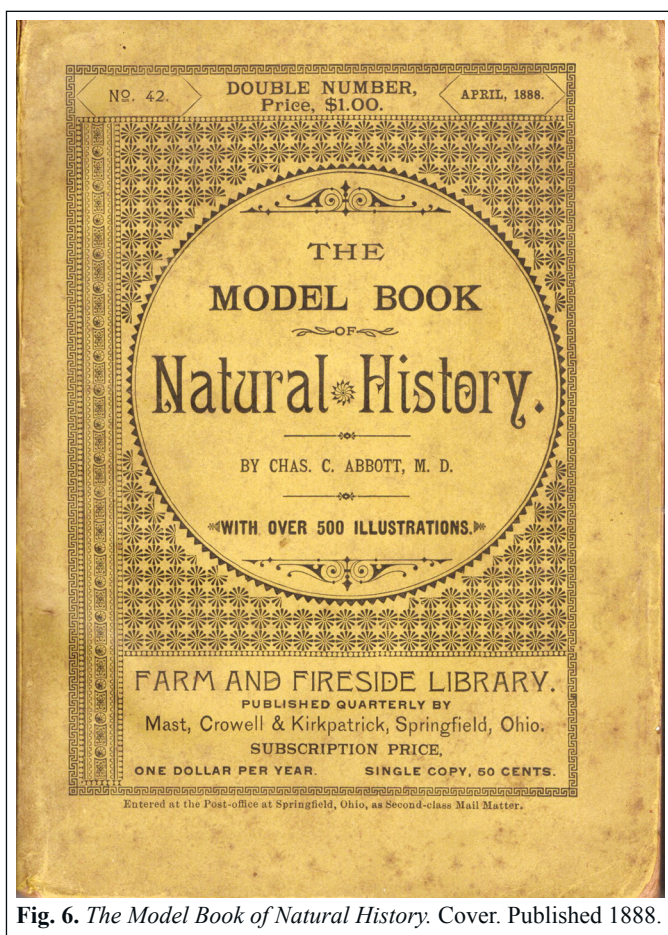


Fig. 6. *The Model Book of Natural History*. Cover. Published 1888.

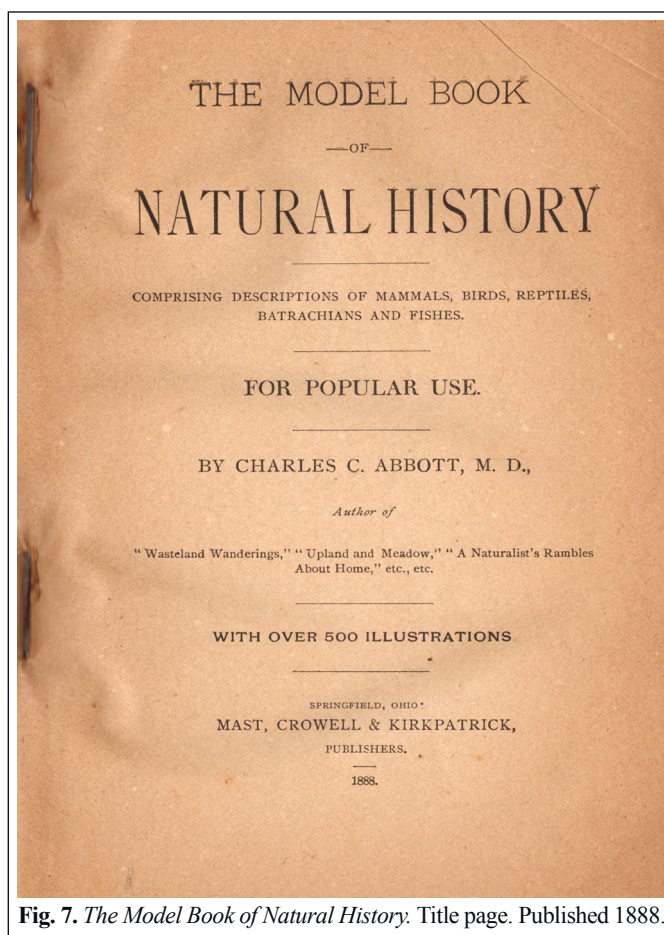


Fig. 7. *The Model Book of Natural History*. Title page. Published 1888.

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NOTES

1. Abbott never attempted to accurately describe the location of his finds or put them in a stratigraphic context. He was frequently admonished by Frederic Ward Putnam of the need to do so and to follow generally accepted careful archeological methodology, but he stubbornly refused to do so.
2. When Abbott began his collections and presented his ideas on supposed paleolithic finds in New Jersey, archeology was pursued by amateurs without specialized training. The first PhD in archeology was awarded in 1894, and only afterwards were academic credentials generally required for museum or university positions in this field.
3. Examples of Abbott's often vitriolic attacks are in Dillian and Bello (2020). His biographers described him as "polarizing, irascible, petulant, and brash" but also as "a prolific writer, colorful character, and innovative thinker" (p. 246).
4. Published 1884 but also reprinted with an 1885 date. The copyright of the 1885 reprint and the second edition is shown as 1884.

5. The Edward T. LeBlanc Memorial Dime Novel Bibliography lists up to 199 numbers issued within this series, although not all numbers are accounted for. The *Model Book of Natural History* was No. 42, which is not listed among the titles in this bibliography. See: <https://dimenovels.org/Series/297/Show>. Accessed 17 January 2025.

6. The biography was reviewed by Bernard K. Means. 2021. *New Jersey Studies*, p. 396–403. Further commentary on Abbott's contributions to archeology are in a blog post by Curtis Runnels, Professor of Archeology, Princeton University, 2 January 2022. <https://blogs.bu.edu/runnels/2022/01/02/dr-charles-conrad-abbott-and-the-curious-case-of-the-american-paleolithic/>. Accessed 18 January 2025.

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